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ABSTRACT

This booklet provides information about block scheduling--its advantages and drawbacks. Schools can use it as a discussion tool to improve their use of time by reformulating student and teacher schedules. The booklet can help educators choose a block scheduling program that will suit their school. The booklet explains the purpose of block scheduling and presents various models of this type of scheduling, such as the 4x4 plan, the A/B plan, and the trimester plan. Advantages of block scheduling include: improved teaching and learning, the reduction of fragmentation, and individualized pacing. Concerns about block scheduling include: difficulty in scheduling music and AP classes and loss of content retention. The recurrent theme in the booklet is the need for planning before implementing any type of schedule change. Some of the keys to successful block scheduling include: consult resources outside the school community; involve teachers, administrators, students, and parents in the process; provide staff development; and constantly seek feedback. The booklet offers case studies taken from nine U.S. states and territories that have introduced block scheduling into their schools. A list of frequently asked questions appears at the end. (Contains 14 references, 15 additional resources, and 5 internet resources.) (RJM)

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THEMES IN EDUCATION

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ED 427 431

Block Scheduling:

Innovations with Time

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Block Scheduling

MAY 1998

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About This Series

This is the second in a series of "Themes in Education" booklets produced by the Northeast and Islands Regional Educational Laboratory at Brown University. The topics addressed by these booklets are generated in response to requests for information from practitioners, parents, and other members of the public. Each booklet aims to present a balanced view of its topic and a glimpse of how the approach works in schools. Some discussions may lend themselves to a state-by-state summary; others are illustrated by a series of vignettes which demonstrate the central concepts. For topics that are more global in nature, the booklet will cite a few illustrations within the region, or nationally.

The goal of the series is to provide resources containing useful information on education-related topics of interest. Connections to other relevant resources, selected current references, and ways to obtain more information are provided in each booklet.

INTRODUCTION

There are many factors that influence what happens in America's schools, but none is as influential as the use of time. The scheduling of school time dictates how the days, weeks, and years are organized, such that everything we do has a designated time limit. Time determines class schedules, structures the curriculum, influences teaching, and shapes the interactions between teachers and students. School time regulates our comings and goings and even influences our family vacations.

According to the National Center for Education Statistics, the typical school day offers a six-period day with about 5.6 hours of classroom time. However, of this time, only a portion is actually available for direct instruction. Time is lost in passing between classes, maintaining discipline, structuring classroom activities, and recordkeeping.

In an attempt to address the issue of time management, districts are experimenting with different configurations that 'recover' lost time and organize the day to maximize every moment. This booklet explores whether ***block scheduling*** *can be one possible solution to the problem of "time."*

What is Block Scheduling?

Block scheduling organizes the day into fewer, but longer, class periods to allow flexibility for instructional activities. Generally, block scheduling is introduced at junior and high school levels. The expressed goal of block scheduling programs is improved student academic performance. Some other rewards of these programs are heightened student and teacher morale, encouragement for the use of innovative teaching methods that address multiple learning styles, and an improved atmosphere on campus. In fact, in a national survey on high schools, Cawelti identifies block scheduling as one of the primary indicators of major restructuring within a district (Cawelti, 1994).

Samples of Block Scheduling Models

There are many different block scheduling configurations, each with several variations depending on the number of class periods per day, the number of courses needed each semester, the addition of full year courses for specialty subjects, and other accommodations needed in individual schools. Basic models will be presented in this booklet along with a descriptive summary of various formats of block scheduling.

4X4 BLOCK PLAN

This plan typically divides the school day into four 90-minute periods with time added for lunch and passing between classes. Each class lasts for one semester, although some schools make exceptions by maintaining the full-year

schedule for Advanced Placement (AP) and music classes. Frequently teachers are responsible for teaching three classes each semester and are encouraged to use the fourth class for planning. Students enroll in four classes in the first semester and four new classes in the second semester (see Figure 1).

Some advantages of the 4x4 block plan

- Students concentrate on only four courses per semester.
- Teachers work with fewer students during the semester.
- Students and teachers prepare for fewer courses each semester.
- Students may retake failed courses.
- Fewer textbooks are required.

FALL	SPRING
Course 1	Course 5
Course 2	Course 6
Course 3	Course 7
Course 4	Course 8

Figure 1. Sample of a basic 4 x 4 block plan for eight courses

A/B PLAN

This plan, also called an alternate day plan, organizes each day into four 90-minute periods but has a total of eight classes meeting over two consecutive days ("A Day" and "B Day"). Oftentimes, the blocked time "slides" or meets at different times during the day on a rotating basis. While this alternate day schedule allows for development of new teaching strategies, teachers still have a large number of students, and both teachers and students have as many classes for which to prepare (see Figure 2).

Some advantages of the A/B plan

- Students receive increased instructional time.
- Students have fewer classes, quizzes, and homework assignments each day.
- Cool down time for problem classes is increased.

Monday A Day	Tuesday B Day	Wednesday A Day	Thursday B Day	Friday A Day	Monday B Day
Course 1	Course 2	Course 1	Course 2	Course 1	Course 2
Course 3	Course 4	Course 3	Course 4	Course 3	Course 4
Course 5	Course 6	Course 5	Course 6	Course 5	Course 6
Course 7	Course 8	Course 7	Course 8	Course 7	Course 8

Figure 2. Sample week of an A/B plan (alternate day) for eight courses

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TRIMESTER PLAN

This time schedule allows students to take two or three core courses each trimester, over 60 days, thus completing six to nine credits per year (see Figure 3). Variations on this plan may include two long classes and one short class per day, two long and two short per day, or other patterns.

Some advantages of the trimester plan

- Students concentrate on only two courses per trimester.
- Students and teachers prepare for fewer courses each trimester.
- Teachers work with fewer students during the trimester.
- Students may retake failed courses.
- Fewer textbooks are required.

Time	Trimester 1 (60 days)	Trimester 2 (60 days)	Trimester 3 (60 days)
Morning	Course 1	Course 3	Course 5
Afternoon	Course 2	Course 4	Course 6

Figure 3. Sample of a trimester plan for six courses

75-75-30 PLAN

This scheduling plan is one in which students take three classes each for two 75-day terms, followed by a 30-day intensive course or enrichment program (see Figure 4). Variations include placing the 30 days between the two 75-day terms, having three long classes and one short class, or changing the configuration to 75-15-75-15.

Some advantages of the 75-75-30 plan

- Students who need extra work can utilize the shorter term to accomplish that objective.
- Students engage in a short-term enrichment program of interest to them.
- Time is available to make up incomplete work.

Fall Term (75 days)	Winter Term (75 days)	Spring Term (30 days)
Course 1	Course 4	Enrichment, extra work, or a new course
Course 2	Course 5	
Course 3	Course 6	

Figure 4. Sample of a 75-75-30 plan for six to seven courses

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COPERNICAN PLAN

This plan has several variations, all of which include "macroscheduling." Students attend classes in large blocks of time over the course of 30, 45, 60, or 90 days depending on the format of the schedule selected. In the sample illustrated in figure 5, students attend two, two-hour classes each morning. There is time in the afternoon for seminars and electives such as music, physical education, and AP classes. The seminars may run for varying lengths of time during the year and are selected by topics of interest.

Some advantages of the Copernican plan

- Students are enrolled in fewer classes.
- Teachers deal with fewer classes and students each day.
- Students have concentrated time in major classes.

Time	Trimester 1 (60 days)	Trimester 2 (60 days)	Trimester 3 (60 days)
Morning	Course 1	Course 3	Course 5
	Course 2	Course 4	Course 6
	Lunch		
Afternoon	Seminars of interest		
	Electives	Music Phys. Ed.	AP

Figure 5. Sample of the Copernican plan for six courses, seminars, and electives

Advantages of Block Scheduling

Much effort has gone into the study of block scheduling and its extensive impact on student learning. Researchers have conducted interviews with students, teachers, administrators, parents, and educators. They have administered surveys, both to collect data on individuals' perceptions, and to uncover the hard facts about block scheduling. As part of the inquiry process, researchers in the field have collected stories of real experiences; these help illustrate the change process that occurs as schools move toward block scheduling. There are both pros and cons to block scheduling according to the findings of these researchers. Some of the major advantages researchers have noted are the following:

- **IMPROVED TEACHING AND LEARNING**

  With longer blocks, teachers have more time to complete lesson plans and to examine and re-evaluate practices. More class time is available to develop key concepts, incorporate creativity into instruction, and try a variety of classroom activities that address different learning styles. Longer time blocks allow for in-depth study, such as individual student projects, peer collaboration, and one-on-one work between teachers and students (O'Neil, 1995; Eineder & Bishop, 1997).

- **ABILITY TO FOCUS ATTENTION**

  The "less is more" philosophy espouses that students better understand and retain material when they have an opportunity to apply information to various contexts

rather than merely cramming the facts (Rettig & Canady, 1996). With block scheduling, students and teachers are able to focus on fewer subjects, and to explore them in greater depth. Both teachers and students assert that this exploration allows them to become engrossed in the subject matter rather than moving rapidly through material. With a standard 4x4 block program, teachers have only three to four classes to teach in a given semester, greatly reducing the number of students with whom they meet regularly.

■ FRAGMENTATION REDUCED

With block scheduling, instructional time is not fragmented by frequent transitions between classes. Fewer distinct classes means less time spent on classroom management activities, such as calling attendance and organizing and focusing the class. In addition, there are fewer opportunities for students to arrive late to class (Rettig & Canady, 1996).

■ INDIVIDUALIZED PACING

The 4x4 schedule allows advanced students to move through material at a more rapid rate, and they are able to finish sequential language classes, such as Spanish I and II, within one academic year. Some schools allow students to use this to their advantage and graduate early. The 4x4 schedule also provides the opportunity for failing students to retake a class without falling behind their grade level (Woronowicz, 1996).

- **MORE COURSE OFFERINGS**

  Students actually take more courses in a standard 4x4 plan because they enroll in at least eight classes per year instead of six or seven (Rettig & Canady, 1996).

- **STRONGER INTERPERSONAL RELATIONSHIPS**

  The number of daily classes for which students and teachers must adjust and prepare is decreased, allowing students to develop the deeper interpersonal relationships that are integral to academic success (Rettig & Canady, 1996; Eineder & Bishop, 1997). Teachers get to know students more personally which enables them to adapt lessons to the interests of their students. This extensive personal interaction between teacher and student, frequently touted as the highest motivation for student learning, is strengthened through block scheduling (Center for Applied Research and Educational Improvement, 1995).

- **TEACHER COLLABORATION**

  Collaboration between teachers is possible because block scheduling gives them longer time periods in which they can exchange ideas and strategies, hold meetings with each other, and work on staff development (Rettig & Canady, 1996).

- **ACHIEVEMENT LEVELS INCREASE**

  The results show that students' grades improve overall. There are fewer failed classes, a higher number of students on the honor roll, an increase in students'

grade point averages, and fewer failing marks. Statistics reveal that fewer at-risk students drop out of a school with block scheduling. With a 4x4 model, students can have a fresh start at midyear or reenter school at the beginning of the second semester (O'Neil, 1995; Eineder & Bishop, 1997).

- **ATTITUDES AND COMPREHENSION IMPROVE**

  Surveys indicate that teachers' and students' attitudes about their school improve. Students state that they get more done in class and learn more because they are better able to focus their attention on their studies. Teachers appreciate the inclusion of projects and activities that facilitate both learning and interpersonal communication. Classes address material in more depth, and teachers feel students are better able to comprehend and retain concepts learned in a block period (O'Neil, 1995; Eineder & Bishop, 1997).

- **STANDARDIZED TEST SCORES MAINTAINED**

  Though data are limited, statistics available indicate that block scheduling does not negatively affect standardized test scores. (Rettig & Canady, 1996; Center for Applied Research and Educational Improvement, 1995).

- **PACE OF SCHOOL RELAXES**

  Longer passing periods between classes can slow down the pace of a school by providing the chance for students to get books from the library, use the restroom, and talk with their friends (O'Neil, 1995).

■ **IMPROVEMENT IN DISCIPLINE**

Most schools which introduce block schedules find that discipline problems on campus decrease, possibly because students are more challenged in class and are better known by their teachers. Decreasing the number of passing periods reduces opportunities for disruption. In addition, teachers of block classes feel more capable of handling behavior problems because they have adequate time to address these issues in class and have a stronger rapport with their students (O'Neil, 1995; Eineder & Bishop, 1997).

■ **ADDITIONAL FUNDING UNNECESSARY**

Generally, block scheduling can be used in a school without spending any new money. However, block scheduling should be accompanied by staff development if its benefits are to be fully realized (Rettig & Canady, 1996).

Concerns about Block Scheduling

Even those schools which have already successfully introduced block scheduling expressed initial concerns over the effectiveness of an approach that would challenge the conventional methods of time management. Often the most prevalent concerns relate to the basic need to reman-age class time while following the same specific teaching and learning requirements. Block scheduling transforms the way one teaches the usual topics by introducing a new way of looking at time and that often requires a shift in the approach to teaching and learning. Some of the concerns researchers have noted are the following:

- **DIFFICULTY IN SCHEDULING MUSIC AND AP CLASSES**

  The greatest difficulties occur with classes whose expected duration is an entire year, such as music/band or AP classes. In the latter case, many schools believe that a review of materials at the end of the school year can be difficult for those students who completed coursework in the winter. Enrollment in electives, such as music, often declines when students are forced to choose between academic and enrichment classes; only if accommodations for these classes are made can their enrollment be maintained (Woronowicz, 1996).

- **LOSS OF CONTENT RETENTION**

  Students forget course content when related subjects are not taken sequentially, much like the typical break from a student's studies which occurs during the extended

summer vacation (Queen, Algozzine & Eaddy, 1996). However, actual research shows that, in fact, the retention of concepts, and process and analytical skills only declines slightly (Carroll, 1994a).

■ **OVERUSE OF LECTURES AND STUDY HALLS**

The block system is doomed if teachers are not properly prepared to utilize a longer class period effectively. Adequate teacher preparation and professional development are crucial elements that are necessary for developing the use of varied teaching techniques. This aspect is especially important in eliminating the fallback to the traditional lecture mode of past decades (O'Neil 1995).

■ **CLASS TIME MAY DROP**

Total class time may drop, depending on the plan selected. When some teachers become aware of this difference in class time, they may feel that progress through the expected material will be impeded (O'Neil, 1995). Teachers sometimes feel this puts added pressure on the requirements they face in helping students meet national standards.

■ **TRANSFERRING CAN BE PROBLEMATIC**

Students transferring between schools may have a difficult time settling into the new system (Queen, Algozzine & Eaddy, 1996). This could be true of leaving or entering a school which follows a block schedule, where subjects and time blocks run the risk of being different.

■ **ABSENCES DIFFICULT TO MAKE UP**

When students or teachers are absent, they lose double the amount of time and may have a more difficult time catching up (Rettig & Canady, 1996). With the alternate day model, an absence creates a wider gap in the time between class meetings.

Keys for Successful Block Scheduling

(Cummingham & Nagle, 1996; Hackman, 1995)

To successfully introduce block scheduling, all participants (including administrators, teachers, students, and parents) should examine the strengths and weaknesses of the program already in place. Before a block scheduling model is introduced, it is important to identify the unique nature of a school community and any trends that stand out in the school's history. The points outlined below underscore the necessary preparation and planning that must take place in order to implement a block schedule.

- **CONSULT RESOURCES OUTSIDE IMMEDIATE SCHOOL COMMUNITY**

  Locate people who can provide useful information and new perspectives on the changes to be made. Visit schools and other communities that are actively involved in block scheduling to observe their classes and to speak directly with those affected by the scheduling changes.

- **INVOLVE TEACHERS, ADMINISTRATORS, STUDENTS, AND PARENTS**

  Input and ownership on the part of teachers, administrators, students, and parents are vital. For the switch to a new schedule to be successful, all participants need to be involved in the transformation and feel that their voices are being heard. To help the process along, solicit input from key groups through survey responses, interviews, and discussions.

■ PROVIDE STAFF DEVELOPMENT

Staff development is the most important aspect of this shift. The change to block scheduling can be detrimental if class time is not used effectively. The needs of teachers should be determined and repeatedly addressed throughout the year in an ongoing effort to stimulate faculty interaction and collaboration. Set aside a specific time each week for teacher planning and preparation and for collegial presentations on innovative techniques that address multiple learning styles.

■ SEEK CONSTANT FEEDBACK

Ongoing evaluation of the scheduling provides an opportunity for teachers, students, and parents to share concerns and successes. To initiate opportunities for feedback, arrange a forum for all to express their views on how the process is working. While minor adjustments can be made in response to meetings of these groups, participants will also develop a feeling of ownership toward the school's new approach.

■ MAINTAIN UPDATED FILES ON TEACHER AND STUDENT PERFORMANCE

Evaluations of teacher effectiveness and student achievement provide constructive feedback and stimulate improvement. Keep data on scheduling changes and student performance which will enable your school to examine what is and is not working, and share that information with other schools.

- **ADJUST NECESSARY REQUIREMENTS**

  Graduation requirements may need to be adjusted to fit the mission of the school. Develop a policy about early graduation, if appropriate. Review district requirements for athletic eligibility. Recently established requirements may be stated in terms of a six or seven period schedule and, therefore, may need to be readjusted to suit the block scheduling curriculum. Flexibility is important.

- **MAKE A SOLID COMMITMENT TO TRY BLOCK SCHEDULING**

  Expect to make a three- to four-year commitment to block scheduling, as trying something new always requires sufficient trial time. Some problems at your school will not surface during the first year; similarly some of the benefits will take time to emerge and develop before tangible results are evident.

- **BALANCE CLASS SCHEDULES**

  Class loads for students must be balanced between semesters or quarters to ensure an evenly distributed amount of homework during each session. Monitor student schedules to ensure even loads.

- **ALLOW FOR PERIODIC EVALUATIONS OF HOW THINGS ARE WORKING**

  The impact of block scheduling on such things as student performance, attitudes, and discipline must be evaluated on a regular basis. Make decisions about adjusting the schedule based on your school's individual needs and expectations.

- **MAKE A POINT TO INCORPORATE BLOCK SCHEDULING INTO WIDER GOALS**

  Block scheduling is just one of many pieces in the puzzle of school reform. It is important to ask yourself the following questions: How does it fit into your overall plan for school improvement? How does it integrate with other teaching and learning strategies? Has your school laid the groundwork for its successful implementation? Is there a plan for measuring progress along the way?

- **REMEMBER THAT BLOCK SCHEDULING IS ONLY ONE OF MANY RESOURCES**

  Block scheduling alone is not the answer to the problems found in America's schools, and yet a school's schedule has tremendous impact on teaching and learning. Viewing the schedule as a resource for change opens up the possibility for more "effective utilization of people, space, time, and resources..." (Canady & Rettig, 1995, p. 29).

Stories from the Field: A State-by-State Review

The following stories from the field provide some insight into the highs and lows schools encounter as they embark on a new way of organizing the instructional day.

CONNECTICUT

Tolland High School – 4x4 Block Plan
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When asked whether there were people in his school who would return to traditional scheduling schemes after trying block scheduling, Dr. Michael Blake, principal of Tolland High School replied, "I have very few people who would go back." Though the 700-student school switched to a 4x4 block schedule only one year ago, the change to block scheduling has already been deemed a "positive" move by teachers, parents, and students.

One of the keys to the new schedule's initial success was the two years of research undertaken before the decision was made. "We had a committee of 15 teachers and administrators who were organized to look at our schedule, and they came across block scheduling in the process. Once we knew what we wanted, we presented it to the board and the parents," said Blake. "It's important that the faculty feel confident with what they want and where they want to go."

The new schedule is organized by semesters. Students take four 80-minute classes per day in the fall, and then four new ones in the spring. Teachers are responsible for teaching three classes per day and have the remaining period to use for preparation. This model was determined to be the most effective because it allows students to concentrate on fewer classes at a time, and gives teachers fewer students per semester so that interpersonal time is increased. A greater variety of activities is possible in the classroom, added Blake, and the school seems quieter since the switch.

Even music and Advanced Placement classes have been successfully incorporated. "Our music teacher was one of the co-chairs of the scheduling committee, and she is very supportive," said Blake. Band and chorus classes meet every day in the spring, and student involvement has increased. They are supported by instrumental music and madrigal classes in the fall, allowing students to participate in music for the entire year if they choose. "I actually think this schedule has been better for those programs," said Blake. "We now have solo performances and more groups performing innovative things." Tolland also offers numerous Advanced Placement (AP) classes for students. Most of the APs meeting in the fall have optional review sessions in the spring. Some APs, such as calculus and chemistry, have the option of meeting for two semesters.

Reactions to the new schedule have been positive. "Before we switched, we took a survey of the faculty and 88% wanted to make the change. Parents are supportive and the students like it—everyone thinks that the day flies by," said Blake. One notable drawback occurs when students take four difficult classes with heavy homework loads in the same semester; the extra work required can be overwhelming. For teachers, the difficult part has been the increased time required for grading student work, because while longer periods provide the opportunity for more activities and projects, they also tend to generate more student work for teachers to read and assess. This is one of the motivations for such extensive staff development. "It is important for teachers to have time for curriculum development. Curriculum in each area will need to be reviewed and, where necessary, revised. In addition, new courses will be necessary as students are now taking 32 credits during their four years," said Blake.

In preparation for the transition, teachers visited other block scheduling schools and attended workshops in which they developed activities and learned new ways to structure time. Inservice sessions have continued throughout the summer. "One difficulty, though, is acclimating new teachers. Preparing for 80 minutes is hard, and they don't have the background to do it," said Blake. One strategy which made a difference at Tolland, according to Blake, was involving the teachers' union from the beginning so that contract issues did not hinder the process.

"It will take at least four years to assess the effectiveness of the program," said Blake. "It's a lot of work and you have to go slowly, but it seems to be working. Our whole atmosphere is different. Instruction is changing and the kids are actively involved."

MAINE

Noble High School – Alternate Day Plan
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In 1991-92, Noble High School opened its doors to reveal a new outlook on education. Through collaboration with the Annenberg Institute of School Reform and the Coalition of Essential Schools, and financial support from the Maine Department of Education, Noble High School designed a plan using a core curriculum, team teaching, looping, and mixed-ability classrooms. "In order to meet the needs of our program, we looked at what schedule would be best," said former Principal Pam Fisher, who is on leave for the 1997-98 school year. The standard 4x4 block plan was rejected because the semester-long classes did not allow deep relationships between teachers and students to develop. Since Noble felt that these connections were what personalized learning and promoted

high expectations for students, the alternate day plan was selected instead.

The 85-minute periods "allow teams and teachers long periods of time to do projects and integrate curriculum," Fisher notes. "Because our classes are heterogeneously divided, the extended periods improve the learning environment by allowing for different teaching and learning styles." The concept of teaming provides still more flexibility. At Noble High School, which also has vocational and part-time students in its student body of 1000, that fluidity is necessary. Another important aspect to the Noble schedule is the common 40-minute lunch period. Students are allowed to eat at various locations on campus, providing opportunities for meetings or for gathering with friends. Teachers can work with individuals or collaborate with each other. The long lunch allows time for catching up on work or the opportunity to wind down and prepare for the afternoon.

The largest drawback, Fisher noted, was study hall. "There are some kids for whom 85 minutes of unscheduled time is not as productive," she said. Through establishing expectations, the teachers hope students will begin to use free time more wisely. "We learn by doing and practicing," said Fisher. Noble has opted not to hold professional development workshops. "We just have to do it. You learn by seeing what works." That strategy has been in place since Noble first moved to an alternate-day schedule. Teachers tend not to lecture because "kids complain loudly enough if something isn't right. During our first year we worked out the bugs, and by the end of our third year we were doing pretty well," she said.

Fisher emphasized that their schedule is "just one piece of the puzzle—it's what fits the other parts together." Since the shift to a core curriculum and untracked classes, test scores have improved dramatically. The percentage of students attending college has increased in the last seven years from 35% to 60-70%. "The center of it has been the curriculum—we have high expectations for all kids. By building a learning environment with equity in all our classes, we get higher performance," she said. "The alternate schedule simply facilitates doing what we want to do with our kids."

MASSACHUSETTS

Sharon High School – Alternate Day Plan
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During the 1994-95 school year, the teachers at Sharon High School approved by consensus the switch to a block schedule. The high school faculty, which serves nearly 900 students in grades 9-12, hoped that the new plan would improve both teaching and learning. The interest in introducing the block schedule at Sharon High was spurred on by new time and learning regulations, a part of the Massachusetts Education Reform Act of 1993. "Our change met the requirement for 990 hours of structured learning time and also benefited learning," said the principal, Susan Dukess.

Having spent several years investigating options, the faculty developed a schedule unique to Sharon. In the spirit of an alternate schedule, Sharon works on a six-day

cycle in which every major academic class meets four times. The two 90-minute periods, followed by two 75-minute periods, are set blocks of time, but the academic classes revolve through them by both week and day. For example, during one six-day cycle, an English class rotates through each of the four periods so that students only have first period English once. Students carry the same five major classes and two electives throughout the year. This enables them to take AP exams without a gap of time between completing the course work and the exam. In addition, they tend to benefit from a continuous two-semester music program.

While the schedule is confusing at first, admits Dukess, Sharon boasts a strong academic curriculum which sends 95% of its graduating classes to college. After two years, Sharon's block schedule seems to be working successfully. Sharon currently has no hard data to support a quantitative increase in student achievement, but Dukess believes that the entire school community has felt the improvement in teaching methods and in the ability of students to engage deeply with work in the classroom. One of the keys to this success was the professional development time for faculty which was built into the school day. "The time has been used very constructively," said Dukess. "Teachers can collaborate because they have common planning time, which also results in consistency among classes at the same level."

With any major change, cautions Dukess, there will be difficulties. "If you have a veteran staff used to a traditional style, a sudden shift requires a tremendous change of strategies and patterns. Everyone felt like a first-year teacher again; by the end of the first year, they were

exhausted. Our second year was much smoother, though." To aid this transition, professional development training sessions were organized to help the teachers develop new classroom approaches.

All teachers now carry four classes per year. This resulted in the hiring of several new faculty members. This staff increase and the professional development workshops were the only financial costs accrued from the switch.

For students, complications arose when a day of school was missed. Longer class periods meant that the equivalent of two days of work had been missed. Some teachers felt that retention of material was an issue for some students with classes not meeting every day.

Overall, the switch has been deemed positive by teachers, students, and parents, says Dukess. At the end of the first year, a teacher survey demonstrated that the faculty as a whole was committed to the longer block periods. "There was not one faculty member who wanted to go back to the old system," Dukess noted. "We know it's not perfect yet, but we're on our way and feel very optimistic. It came out strongly that teachers felt their teaching had improved. I see this improvement as an administrator as well."

NEW HAMPSHIRE

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When Pelham High School made the switch to block scheduling, "it was a grassroots effort," remarked the principal, Bob Pedersen. "The teachers came to me and said that they wanted to do something with block scheduling. They were looking for a better way to use time to their advantage." It was this interest on the part of the faculty that has helped to make block scheduling at Pelham so successful.

Five years ago, the 500-student high school developed an alternate period schedule which allowed students to take courses for either 50 minutes (singles), 100 minutes (doubles), or a combination of the two. However, this schedule was not successful at Pelham. "The kids and teachers were still prepping for the same number of classes, and the teachers had just as many kids. They were getting fragmented to death," said Pedersen.

After two years with an alternate day schedule, the schedule was again changed, this time to the standard 4x4 block model. The 4x4 block is very similar to a college schedule; students have four classes per semester that meet every day for 90 minutes. "Everyone simply felt like they had less work to do because there were fewer shifts and less to worry about. The staff say that the day is more relaxing, and the students do more and like it better," Pedersen stated. Pelham responded instantly to the 4x4 block; within the first semester, the list of names on the honor roll grew dramatically. What made this more notable was that Pelham had raised graduation requirements and eliminated D's as passing grades. "Our kids rose to the occasion; even with the change in requirements, the shift in achievement was more dramatic with the 4x4 than with the alternate day model," said Pedersen.

Along with the 4x4 block schedule came a change in classroom environment. Time in study halls was redirected to class time, allowing for long-term projects and the simple opportunity to practice in class the concepts which had just been taught. These changes were facilitated by several years of training with consultants, workshops with teachers from other schools that were making similar changes in schedule, and in-house staff development. In addition, teachers now received a 90-minute preparation period per day and a half-hour lunch break. "Teachers gained free time but increased teaching time too, by eliminating duties like study hall," explained Pedersen. This loss of social time in study halls seemed to be the only drawback lamented by both students and staff, noted Pedersen. To remedy this, all lunches have been scheduled within the third block of the day, and a coffee and discussion group has been instituted in the library before school every Friday to facilitate camaraderie among the staff.

The most debated question for the 4x4 block—what to do with AP exams and music classes—has not fazed Pelham, which sends between 70% and 84% of its students to college each year. Since classes in a 4x4 block last only one semester, AP classes are offered only in the spring so that students retain what they learn for the May tests. To support this process, students taking AP classes in the spring enroll in honors classes on comparable subjects in the fall. In this way, students are exposed to some of the concepts which are further developed as studies continue in the spring. The only skepticism about block scheduling at Pelham arose from the parents of the AP students, who did not want to change a system which already benefited their children. But in two years, said Pedersen, the criticism and questions have faded. To accommodate an active band and chorus program, Pelham has devised a unique system that applies only to the music department. The block for band and chorus is divided in half and each class runs for the entire year, which allows students interested in music to pursue their studies without missing other electives as well. For students who only want one of these classes, a special 45-minute elective, such as word processing or independent study, is also available. Every year, the 45-minute option will change to prevent stagnation. "So far," said Pedersen, "it seems to be working. Our participant numbers are high and the music director is behind the plan."

At Pelham High School, Pedersen saw the 4x4 schedule as a tremendous success. The key, he said, is "the discussion beforehand. It is important to make sure that you're shifting for the right reasons and that the institution changes with you. The teachers are still enthusiastic about the plan, and the students in the school right now haven't known anything else—for the most part, they've loved it."

NEW YORK

Kings Park High School – Alternate Day Plan
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At Kings Park High School, which serves 1,000 students in grades 9-12, it was the vision of the principal, John Merone, that led to the implementation of block scheduling. "He believes that students learn more effectively when they become more actively involved in the learning process. This can be accomplished during longer blocks of time," said Judy Letterman, the assistant principal.

After that point, it took nearly a year and a half of preparation before an alternate day schedule was implemented in 1996-97. In the beginning, numerous meetings were held with the school board, faculty, and parents to introduce them to the idea. Later, an implementation committee comprised of parents, students, and

faculty was formed to ease the transition, and workshops were organized for the faculty. "Teachers were given time to create time lines and prepare new lesson plans. They felt more comfortable once they had the time to plan properly," said Letterman. Faculty members also visited other block scheduling schools to observe and ask questions.

The alternate day model selected by Kings Park is organized into eight 80-minute periods each of which meets every other day. The unique aspect of this model is the inclusion of a seminar period on alternate days during which students are given several options. "They can work with specific teachers individually for extra help; they can go to the computer lab or the library; or they can work on group projects. In addition, we schedule assemblies during this time to avoid interference with instructional periods," said Letterman.

Since the change to a block schedule, Letterman has seen a reduction in the number of class cuts and discipline referrals. "With fewer changes between classes, there are fewer opportunities for disruptive incidents to occur," she said. "We are in the process of evaluating increases in academic achievement and will continue to do so over the next three years." The key to success, as noted by Letterman, was the support of everyone involved, including the school board, students, parents, and especially the faculty. "This was accomplished by allowing ample time to prepare for the new format by accepting input from all parties involved in the change, and by providing staff development," she said. Teachers are provided with an 80-minute preparation time every day, giving them ample opportunity to plan strategies of using techniques suitable for the longer

class periods. "Teachers feel more professional—they can put all their energy into the kids and get more done," said Letterman.

Letterman is looking forward to the prospect of another year on a block schedule. "Everyone involved is delighted with it," she said. "Kids like it because they can concentrate on fewer classes per day. The schedule is more like a college schedule and teaches students how to manage their time. Teachers love it because they can accomplish more during an 80-minute period. Classes are more interesting because a teacher can provide students with at least three different activities, for example, a lecture, applied activities, and time to review and clarify concepts. Kids become more involved in the learning process."

PUERTO RICO

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When Lydia Lopez became the principal of Dr. Jose M. Lazaro High School in 1994, she was introduced to the concept of extended periods by members of the faculty. "There are many advantages to it," said Lopez. "The students have more time to do assignments. Also, they can participate in more activities and work in small groups rather than sit in lecture halls."

Though an alternate day block schedule with 90-minute periods was instituted in 1994, the results were not as successful as Lopez had hoped. "There were some teachers who did not plan for longer classes, so when the students finished after 40 minutes and had nothing to do, they got out of hand," she said. Frustrated by this lack of success, Lazaro returned to the traditional schedule of

seven 50-minute periods per day. However, said Lopez, this was not the solution. "We have a big campus, so moving between rooms took a long time. Also, teachers had to do clerical work, such as attendance, at the beginning of each class— so there was very little time to teach," she said.

After studying the implementation process and making some revisions, Lopez and several other teachers proposed another scheduling plan. "I had a meeting with the Parent-Teacher Association and they voted for it. Three quarters of the teachers and all the students wanted this [alternate day block schedule], and so did the security officers and the janitors. This time it's a lot better," Lopez said. Under this schedule, students have to prepare for only three periods per day instead of the traditional six, and teachers have only three classes instead of five.

The key to success this time was the new focus on teacher training. Workshops for teachers, organized by the PTA, have been given on collaborative learning, meeting expectations for national standards, innovative research techniques, behavior modification, and stress management. In addition, Lopez led a two-day workshop on making exams in which alternate forms of assessment, such as portfolios, were explored. "All the professional development has enriched teaching and learning," said Lopez. At the end of the 1996-97 school year, the schedule was deemed a success. "The teachers asked for more workshops this year, too. They filled out a questionnaire on which they marked the topics they wanted to learn more about, and our parent and teacher council will find the resources to get them what they need," she said.

The biggest advantage of having this block schedule is the way in which Lazaro has organized time. Students have

two 100-minute periods in the morning, followed by lunch and another academic period. For the last 50 minutes of the day, a special rotating elective period has been devised. On Mondays and Thursdays, the time is used for individual and small group tutoring. On Tuesdays, parent-teacher meetings are scheduled, and Wednesday afternoons feature a homeroom and counseling period. During the Friday afternoon period, faculty members can collaborate within their subject area and hold interdisciplinary meetings to integrate curriculum. These meetings have had the added advantage of securing a supportive and enthusiastic attitude toward the return to extended periods at Lazaro.

This collaboration has stimulated the development of the science curriculum. According to state standards, students must complete a science research class in order to graduate. With the extended periods, it is possible for students to do independent research, both in the classroom and outside in the field. "These hours offer the teacher the flexibility to explore new ideas and incorporate them into classroom practice, while students are able to experiment with various modes of learning," noted Lopez.

The changes at Lazaro since the return to block scheduling have been positive. "I think that it has been working. I've been training different schools and everyone wants to know what we're doing. You have to prepare teachers to change the form of their classes; doing so takes many new activities and different strategies," said Lopez. "Now, we base all teaching on investigation; having more time in a period makes that possible."

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"What is unique about block scheduling at South Kingstown is that the idea came from the teachers themselves. It wasn't something that the administration told the teachers they were going to do," said Eric Wertheimer, principal of South Kingstown High School. For the first quarter of the 1997-98 school year, South Kingstown ran a pilot version of the 4x4 block schedule. While there are no schools in Rhode Island who have been on a block schedule for an extended period of time, South Kingstown is one of several schools trying out the concept for a limited time. Wertheimer noted how excited everyone has been about testing what he considers a simple but innovative way to improve the educational environment at South Kingstown.

The exploration of block scheduling was sparked by a process that began four years ago, when the high school moved to a school-based management model. "One of the things we then looked at," said Wertheimer, "was the stagnant organization of periods in the day." Some teachers were interested in rotating periods through the day, a scheduling change that was piloted for the 1996-97 school year. Wertheimer commented that it was a productive test, but that rotating periods did not allow the school to re-examine time and how it affects instruction. Other teachers wanted to learn more about the 4x4 block schedule, but met with resistance from some members of the faculty and some parents. Explained Wertheimer, "We have a fairly successful school and a good reputation. A lot of parents were concerned about the unknown and repeatedly quoted the phrase, 'If it ain't broke, don't fix it'." For teachers, changing the schedule required looking at what they would need to do differently; for some that kind of change meant reaching beyond their level of comfort."

After much discussion, a compromise was reached in 1995-96 to test both models; thus, after trying a rotating schedule first, South Kingstown decided to run a modified 4x4 block schedule for September and October 1997. Because the school has seven periods, one 55-minute period was scheduled during lunch and was set up to meet throughout the two-month period. The remaining six classes were divided into groups of three which it was decided would meet 85 minutes a day for 20 days each. "There are distinct disadvantages to the length of time we have decided to try it. We knew going into this that we would not be able to get a handle right away on whether

or not block scheduling would improve student achievement. I don't know if our trial period was long enough but a lot of schools have tried [to implement block scheduling] and gotten shut down by various constituents. I'm hoping that the fact that we agreed to try it for a quarter will be a good model for ourselves and other schools," said Wertheimer.

There are several perceived advantages that South Kingston hopes to measure against past practices once a new scheduling plan has been fully introduced. An evaluation committee already surveyed parents and students prior to the new scheduling to document some of the ways that they viewed the school previously; and another survey will be taken after the pilot period to see if there has been a change in opinion. In addition, attendance rates from the first quarters of 1996 and 1997 will be compared, along with discipline referrals, and a preliminary look at students' grades. The most interesting measure, comments Wertheimer, was the Monday morning when the school returned to the craziness of a hectic seven-periods-a-day schedule. "That return showed more of the benefits of a block schedule in terms of pace, relaxed atmosphere, the number of classes both students and teachers must prepare, and the interaction between students and teachers."

If the pilot is deemed successful by the school community, South Kingstown will take at least another year to prepare teachers and examine the structuring of course credits and staffing implications. In preparation for the trial period, teachers attended workshops, visited other block-scheduling schools, listened to speakers, and took advantage of scheduled time periods during the summer

when teachers could meet to discuss the resources available to them. South Kingstown is also receiving support as one in a group of five high schools overseen by Breaking Ranks, a part of Rhode Island's secondary school reform network.

One of the biggest advantages Wertheimer found was the ability to explore material more deeply in the classroom. "Depth is where education is going," he said. "We are learning that we do need to teach kids to be problem-solvers as opposed to simply teaching facts and information. That's why block scheduling has caught on—the longer time provides the opportunity for teachers and students to have more in-depth explorations."

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"One of the challenges before us in secondary public education now," states Tom Bochanski, "is the need to determine if there is a correlation between extended learning time and student performance." As the assistant principal of Essex High School, he has had the perfect opportunity to collect data. After nearly a year of research, a task force of teachers, administrators, parents, and students presented several scheduling options to the faculty senate. Deciding that the alternate day, or A/B, plan presented the most opportunities for the 1,700-student high school and technical center, in 1995-96, Essex made the shift.

The four 85-minute time slots provide teachers with the class time to develop "the best teaching and learning

environment," said Bochanski. For the last six years, data on 16 different factors, including grade point averages, AP scores, attendance, school climate, cutting classes, and disruptive behavior have been gathered for the purpose of documenting the benefits of block scheduling. While no "sophisticated" analysis has been completed yet, "all 16 indicators show positive gains or remain stable," said Bochanski. In speaking with teachers and students, he has personally come to the conclusion that both are in support of block scheduling. "The biggest criticism from the kids," he said, "is that there are some teachers who still lecture. These teachers know the content but find it difficult to change their instructional strategies after 25 years in the classroom."

Efforts were made to avoid such difficulties when the change to extended periods occurred. Over 60% of the staff participated in several voluntary professional development workshops. In addition, Bochanski personally evaluated 36 teachers' skills to "teach within the block. I coached people, provided resources, and recommended workshops and courses teachers could take," he said. Additionally, teachers now have common planning time to encourage collaboration, sharing of strategies, and group projects.

One of the keys to a successful block schedule, maintained Bochanski, is tending to all of the "administrivial" details. "I build the schedule from year to year and try to focus on what the needs of the teachers are. Ironing out all the foreseeable logistical problems is important. The little things are what makes the day a success." In addition, a solid rapport between the administration and its faculty and students keeps the lines of communication open. Making certain that everyone knows what is happening at school is

vital. Open and honest communication squelches rumors and provides a mechanism for all to voice their ideas, give opinions, and raise concerns.

"The increase in instructional time has been extremely beneficial," Bochanski said. "However, extended learning time is not a panacea but another tool that we as educators can use today to create the best teaching and learning environment. The block schedule is about making sense — it's a more humane look at the way that teachers teach and kids learn."

John H. Woodson Junior High School — Varied Plan
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Prompted by an interest on the part of teachers, the John H. Woodson Junior High School decided to implement block scheduling two days a week. On Tuesdays and Thursdays, students attend three classes, each of which lasts 90

minutes. Because students take six different subjects, each one of those subjects has the added benefit of being placed into one extended period per week. "This way, every class has the opportunity to have one longer period each week. The block works best for us because it provides flexible time slots for teachers to use in planning student lessons," said the school's principal, Vaughn Hewitt.

Woodson, currently home to 700 seventh and eighth graders, will expand in 1998-99 to include approximately 150 sixth graders. To create the feel of a smaller school, teams of teachers comprised of one faculty member from each subject area teach the same group of students. This system allows for teachers to work together within the group to address academic and social issues that might otherwise go unnoticed. In addition, the team can follow a block scheduling plan on the remaining three days if desired. Hewitt believes that the team structure is "working very well for us" and, in conjunction with block scheduling, helps to create a "very positive and powerful" experience for students.

Before shifting the school to a two-day-a-week block schedule, Woodson piloted the program for a semester to see if the scaled-down plan would be successful. In an effort to comply with contracts that stipulate the number of hours teachers can spend in the classroom, teachers expressed greater comfort with shorter periods; at that point, the decision was made to lengthen class time only two days a week. Approximately every two months since the shift two years ago, voluntary professional development workshops on classroom management are organized and led by teachers from within Woodson. "Teachers learning from teachers works best," said Hewitt, "because it increases comfort among colleagues."

Feedback from teachers and students about the new schedule has been positive, said Hewitt. Students are reportedly excited because they no longer have to rush to get projects done, and they now have more time to do hands-on activities and to work individually with teachers. There has also been an increase in the number of math and science projects and better lab attendance. "Students simply spend more time on task," said Hewitt. Enthusiasm for school, judging from lowered absentee numbers, reflects this as well. Hewitt reported that while, on a regular day, 85% of students and 95% of teachers attend, the numbers reach 99% for both on a block schedule day. Even parents enjoy the longer classes. With extended periods, teachers have the time to invite volunteer parents to class so that students can receive more individualized attention.

At Woodson, block scheduling required no extra money, and Hewitt does not see any major drawbacks so far. The key to success, in his mind, was getting teacher input into the process. "The teachers had to feel a part of the block scheduling plan," said Hewitt. "That's why we let them pick the number of days per week we would try it. Overall, the plan has proven to be productive."

Frequently Asked Questions

Q. *How does block scheduling benefit students?*

A. There is an increase in daily instructional time and a decrease in the number of classes each day. Students have fewer classes for which to prepare and can spend concentrated time on each subject. According to one survey administered among students, the students reported receiving more individual attention, had more time for homework, found it easier to concentrate, and felt less stressed and rushed (Skrobarcek, Chang, Thompson, Johnson, Atteberry, Westbrook, & Manus, 1997).

Q. *With a 90+ minute class, won't students find it difficult to pay attention to the same subject and the same teacher?*

A. We know that the average attention span for adolescents is anywhere from 20 to 50 minutes. Based on this fact, it is incumbent on teachers to vary the type and length of activities. For example, elementary school students are with the same teacher most or all of the day, but their day is broken up into different instructional components. In block-scheduled classrooms, the sequencing of activities and varying of instructional strategies are crucial elements of careful instruction by teachers and increased learning by students.

Q. *Will Advanced Placement (AP) courses be impacted by block scheduling?*

A. AP courses are courses for which college credit can be awarded. The national exam that determines the level of

college placement is usually given in early May. Courses taken in the fall semester leave a time gap between the completion of the course and the exam; however, some schools provide a refresher class prior to the exam. Additionally, with the scheduling of semester classes, it is possible for more students to complete the prerequisites for admission to AP classes.

Q. *Won't a student who is absent from a block-scheduled class miss so much work that it will be impossible to catch-up?*

A. A student absent for a full day does miss more time per subject, but rather than missing six or seven classes, only three or four classes are affected. The student meets with fewer teachers to collect make-up work. Additionally, many instructional strategies include cooperative learning. This allows the student to work with peers to obtain missing work assignments or to collect data for collaborative projects.

Q. *Will retention decrease?*

A. Many parents and educators have expressed concern about students forgetting content knowledge and then needing extensive review of material when there are gaps between courses following a sequence. This goes to the heart of what was learned and what is valued. While students' ability to retain information may drop off due to a gap in course sequence, retention of concepts and skills only slightly declines. (Semb, Ellis, & Araujo, 1993, p.13 as cited in Canady & Rettig, 1996).

Conclusion

This booklet provides information about block scheduling and its advantages and drawbacks. It can be used as a discussion tool in schools that want to better manage their use of time by reformulating student and teacher schedules. By discussing both the possibilities and problems already faced by schools that have introduced these changes, the booklet can help educators choose a block scheduling program that will suit their school environment. It is important to remember that changing the schedule will not bring immediate relief for a school's problems. Block scheduling is a process which evolves over time. Therefore, for it to work effectively, it must be both flexible and adaptable to a school's own unique circumstances, strengths, and weaknesses. Used well, this creative restructuring of time can revitalize classroom instruction, encourage better learning and studying and, potentially, change a school's atmosphere. The use of block scheduling requires the consistent commitment and patience of the entire school community. If block scheduling is to succeed, the entire school community must get involved and extensive teacher training must accompany the new vision. Many of the school profiles contained in this booklet echo these imperatives quite succinctly. While different models provide distinct advantages, each revolves around the effective and innovative use of extended time in the classroom as a key mechanism for change.

How Do I Get More Information?

For more information, or for a collection of articles on block scheduling, contact the Information Center of the LAB at Brown University and ask for Eileen Ferrance at (401) 274-9548 x256; or send email to <LABinfo@brown.edu>.

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Internet Resources

- **http://carei.coled.umn.edu**

  The Center for Applied Research and Educational Improvement, part of the College of Education and Human Development at the University of Minnesota, maintains a web page on block scheduling with information and links to numerous other pages on the topic.

- **http://www.ed.gov/pubs/studies.html**

  On the U.S. Department of Education page are the links to three reports from the National Education Commission on Time and Learning entitled "Prisoners of Time," "Prisoners of Time—Research: What We Know and What We Need to Know," and "Space and Time: Schools and Programs Making Time Work for Students and Teachers."

- **http://www.athenet.net/~jlindsay/Block.shtml**

  A parent of a child in the Appleton, WI School District has organized a web page entitled "The Case Against Block Scheduling." This site provides information about block scheduling and links to other pages.

- **http://www.palmbeach.k12.fl.us/9058/blksched.html**

  The School District of Palm Beach County provides information about block scheduling including a pre-implementation checklist and a list of suggested staff development activities.

- **http://www.tiac.net/users/dfleming/**

  A great section on block scheduling resources and sites to explore.

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